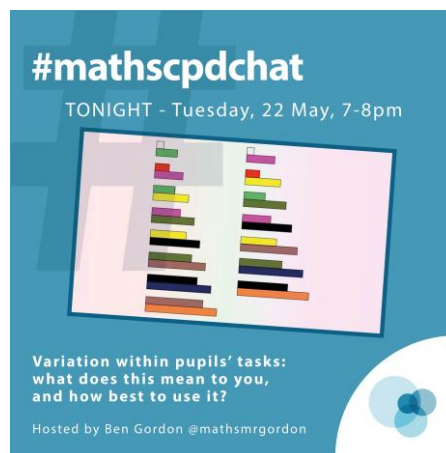


## #mathscpdchat 22 May 2018

### Variation within pupils' tasks: what does this mean to you, and how best to use it?

Hosted by [@mathsmrgordon](https://twitter.com/mathsmrgordon)

*This is a brief summary of the discussion – to see all the tweets, follow the hashtag #mathscpdchat in Twitter*



Some of the areas where discussion focussed were:


- some of the 'ideas behind' variation ... what teachers (authors / task-designers) have in mind when creating sets of items in which they are trying to vary something(s) systematically-for-a-purpose
- ways of making it likely that pupils appreciate the underlying structure intended in the design process ... how to use variation so that it really supports learning
- some of the roles played in pupils' learning: of, pattern, non-examples, 'just-' and 'not quite-' examples, and other ideas connected to variation
- contributors' examples: variation used to what effect? Differentiation?

A particularly interesting sequence of tweets, about the danger of pupils working through sets of 'minimally different questions' without learning much, followed from this tweet by [Ben Gordon](https://twitter.com/mathsmrgordon):



(to read the discussion-sequence generated by a tweet look at the 'replies' to that tweet)

including this one from [Danny Brown](#),



**dannytybrown** @danieltybrown Following

Replying to @mathsmrgordon

For me, a fundamental problem of the teacher creating sets of similar questions is the potential for students to work through the questions without using much initiative  
[#mathscpdchat](#)

this one from [Mr S Devon](#)



**MrS\_devon** @Maths\_Devon · 13h

Replying to @danieltybrown @mathsmrgordon

Agreed. There needs to be some thought required for each question, or they might just go on autopilot. [#mathscpdchat](#)

and these two from Danny Brown



**dannytybrown** @danieltybrown · 13h

And there is the illusion of learning: the children successfully work through a set of questions, but do not seem to be able to re-produce what they did out of context a day or two later [#mathscpdchat](#)



**dannytybrown** @danieltybrown · 14h

Replying to @Arithmaticks

There are many forms of variation, as described in Anne Watson's new book [atm.org.uk/Shop/Variation...](http://atm.org.uk/Shop/Variation...) via @ATMMathematics

Among the other links shared were:

[Practising Mathematics: Developing the Mathematician as well as the Mathematics](#) by Dave Hewitt and [@Tfrancome](#) as a source of ideas for tasks that provide practice of important skills, shared by [@danieltybrown](#)  
[Variation: analysing and designing tasks in MT252](#) for various ways of using variation in tasks, shared by [@PardoeMary](#) and [@mathsmrgordon](#)  
[Variation in Mathematics](#) which is a collection of writings from the ATM, shared by [@danieltybrown](#)